

Remarks and Arguments

Claims 1-36 are pending in the application.¹ By this amendment, Applicant is adding claims 37-48. As a result, claims 1-48, with claims 1, 21, 37, 42 and 45 being independent claims, remain in the application. Applicant submits that no new matter has been added.

Claims That Are Objected To

Claims 16-18 and 24-26 stand objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form.

Rejections Under 35 U.S.C. §102

Claims 1, 2, 5-8, 11 and 12 stand rejected under 35 U.S.C. §102(b) as being anticipated by Castro, et al., U.S. Patent 6,395,326. Applicant respectfully traverses this rejection as set forth below.

The present invention is directed to a system for applying a medicinal coating to an implantable medical device, for example, a stent mounted on a balloon portion of a balloon catheter. Advantageously, the present invention can be used by a physician immediately prior to the procedure by which the stent is inserted into a patient. The physician can determine the amount of medicinal material that is needed for the particular patient at that moment. The system allows for placing the coating material on only the stent and not wasting material by coating the balloon portion of the balloon catheter.

Castro is directed to depositing a coating onto a surface of a prosthesis, i.e., a stent. A dispenser motion control system 32 has the capability of maneuvering a dispenser driving component 34 in the X, Y and Z directions as well as for providing rotational motion. (Column 9, lines 54-58). The dispenser motion control system 32 has the capability of moving the dispenser driving component 34 from a stopped position at intervals of less than 0.001 inches and, additionally, is capable of terminating the motion of the dispenser driving component 34 at less than 0.001 inches from the position at which a termination signal from a CPU 20 is received. (Column 9, line 58-65).

¹ The Office Action Summary only reflects that claims 1-32 are pending in the application. Applicant believes that this is only a typographical error as claims 33-36 were addressed on Page 5 of the Office Action.

Castro also discusses a feedback system 42 that directs the deposition pattern of the composition 10 onto the stent 12. (Column 12, line 7-10). The feedback system 42 includes a video camera 44, lens system 46, frame grabber hardware 48 and vision software 50 within the CPU 20. (Column 10, line 7-13, Fig 4A). The feedback system 42 controls the motion of dispenser assembly 22 by accessing the relative locations of a nozzle 26 of dispenser assembly 22 as well as of particular features of prosthesis 12 and provides feedback to the dispenser motion control system 32 which directs the motion of the dispenser assembly 22. (Column 10, line 54-62).

Castro discloses relative motion among a holder assembly 14 and a nozzle 26 of the dispenser assembly 22 in a number of different embodiments. In one embodiment, the holder assembly 14 moves along a predetermined path while the dispenser assembly 22 remains stationary. In another, the dispenser assembly 22 moves along a predetermined path while the holder assembly 14 remains stationary. In yet another embodiment, both the dispenser assembly 22 and the holder assembly 14 move along respective predetermined paths during deposition of a composition. (Column 16, lines 1-38).

In summary, Castro discloses the application of a coating onto a stent by controlling the relative motion and location of the stent with respect to the coating applicator. Various modes of relative movement and control systems are disclosed to accomplish and control this movement.

In order for a reference to anticipate a claim, however, it must disclose each and every limitation of that claim. Applicant respectfully submits that Castro does not disclose each and every limitation recited in claim 1.

Claim 1 is directed to a coating device for selectively applying a coating to surfaces of an object with the device applying the coating based upon optical properties of the surfaces such that the coating is applied to surfaces of a first type and is not applied to surfaces of a second type where the first type surface is optically distinguishable from the second type of surface. The coating device comprises at least one optical scanning device to scan at least a portion of the object and at least one coating applicator deployed so as to deposit a fluid to coat a portion of the object. A processing unit is responsive to output of the at least one optical scanning device so as to selectively activate the coating applicator, thereby applying the coating substantially only to surfaces of the first type.

For at least the reason that Castro does not disclose a processing unit responsive to the output to selectively activate the coating applicator, thereby applying coating substantially only to surfaces of the first type, Applicant respectfully submits that Castro does not anticipate independent claim 1. Castro discloses only a system for controlling the relative movement of the stent to be coated with respect to the coating applicator. The focus of Castro is on the control of this movement as evidenced by the description of the granularity of the minimum movement distance, i.e., 0.0001 inches, as well as the maximum stopping delay distance, also 0.0001 inches. Castro fails to disclose the selective activation of the coating applicator as a function of output which is indicative of the types of surfaces of the object.

In the present invention, one type of surface would be the stent itself, while the second type of surface would be the balloon portion of the catheter. The present invention allows for the placement of the coating material on the first surface when the signal identifies that the coating applicator is positioned over the stent but disables the depositing of the coating material when the output signal indicates that the applicator is over the second surface, i.e., the balloon. For at least the foregoing reason, Applicant respectfully submits that independent claim 1 is not anticipated by the Castro reference.

As claims 2, 5-8 and 12 depend from independent claim 1, Applicant submits that these claims are also not anticipated by the Castro reference.

In addition, with respect to claim 11, Applicant further maintains that Castro does not disclose that the object being positioned is a catheter that includes a balloon portion on which a stent is deployed such that the stent is a surface of the first type and the balloon is a surface of the second type. Castro does not disclose, teach or suggest the coating of a stent positioned on a balloon portion of a balloon catheter as is recited in claim 11. Accordingly, Applicant respectfully submits that claim 11 is patentable over the Castro reference.

Rejections Under 35 U.S.C. §103

Claim 9 stands rejected under §103 as being unpatentable over Castro. For at least the same reasons as submitted above, as claim 9 depends from independent claim 1, Applicant respectfully submits that claim 9 is patentable over the Castro reference.

Claim 10 stands rejected under §103 as being unpatentable over Castro in view of Zhong. Applicant respectfully traverses this rejection as set forth below.

Zhong is directed to a system and method for coating a medical appliance having accessible pattern surfaces. (Abstract). Zhong, however, does not remedy the deficiencies of Castro with respect to teaching or disclosing a processing unit being responsive to an output so as to selectively activate the coating applicator, thereby applying the coating substantially to only surfaces of the first type, as is recited in claim 1 from which claim 10 depends. Accordingly, Applicant submits that the combination of Castro in view of Zhong does not render this claim as being obvious.

Claims 3 and 4 stand rejected under §103 as being unpatentable over Castro in view of Brewer.

Brewer is directed to a tinning station for axial lead electronic components that includes a presentation system for arranging a plurality of components with axial leads in an elevated linear array. (Abstract). The tinning station of Brewer provides for a safe way for axial lead components to be tinned with solder.

Brewer, however, does not remedy the deficiencies of Castro with respect to claim 1 from which claims 3 and 4 depend as outlined above. Accordingly, Applicant submits that claims 3 and 4 are patentable over Castro in view of Brewer.

Claims 13-15, 19-23, 27, 30, 31 and 33-36 stand rejected under §103 as being unpatentable over Castro in view of Smith.

Smith is directed to a process and machine for coating a surface of an ophthalmic lens in a machine which is closed to minimize the introduction of external contaminants into an operating area. (Abstract). Three different operations are performed within the enclosure: a wash/dry/coat section, a cure section and a pick-off station. (Abstract).

As to claims 13-15, 19 and 20, which depend from independent claim 1, Applicant respectfully submits that Smith does not remedy the deficiencies of Castro with respect to that which is recited in claim 1. Accordingly, Applicant respectfully submits that dependent claims 13-15, 19 and 20 are allowable over the combination of Castro in view of Smith.

Independent claim 21 is directed to a coating device for selectively applying a coating to surfaces of an object with the device applying the coating based upon optical properties of the surfaces of the object such that the coating is applied to surfaces of the first type and is not applied to surfaces of the second type with the first type of surface being optically distinguishable from the second type of surface. The coating device comprises at least one

optical scanning device to scan a portion of the object and to produce output indicative of the different types of surfaces of the object and a processing unit responsive to the output so as to selectively activate a coating applicator thereby applying coating substantially only to surfaces of the first type.

Applicant submits that the combination of Castro in view of Smith does not render obvious that which is recited in independent claim 21 for at least the following reason. There is no teaching or suggestion of the processing unit to selectively activate a coating applicator as a function of output indicative of the different types of surfaces of the object thereby applying the coating substantially only to surfaces of the first type as is recited in claim 21.

As above, Castro discloses only that the relative movement of a device on which the coating is deposited with respect to the coating applicator is controlled. There is no teaching or suggestion of activating the coating applicator in response to an output signal that indicates a different type of surface so as to only coat one surface and not another. Smith does not remedy the deficiencies of Castro with respect to independent claim 21. As a result, Applicant respectfully submits that independent claim 21 and dependent claims 22, 23, 27, 30, 31, 33, 34 and 36 are allowable.

As to claim 35, which depends from claim 21, Applicant respectfully submits that the combination of Castro in view of Smith does not teach or suggest a coating device where the object to be coated is a catheter which includes a balloon portion on which a stent is deployed such that the stent is a surface of the first type and the balloon is a surface of the second type. As above with respect to dependent claim 11, the combination of Castro in view of Smith does not teach or suggest coating a stent that is mounted on a balloon catheter. Accordingly, claim 35 is allowable over the cited combination of references.

Claims 28 and 29 stand rejected under §103 as being unpatentable over Castro in view of Brewer and Smith. As these claims depend from independent claim 21, Applicant submits these claims are also allowable for at least the same reasons as submitted above.

Claim 32 stands rejected under §103 as being unpatentable over Castro in view of Brewer and Zhong.

As claim 32 depends from independent claim 21, for at least the reasons submitted above, Applicant submits that claim 32 is allowable over the cited references.

New Claims

By this amendment, Applicant has added new claims 37-48 including independent claims 37, 42 and 45. Applicant submits that no new matter has been added.

Applicant respectfully submits that these new claims are allowable over the cited references for at least the reasons submitted above. None of the cited references either individually or in combination disclose, teach or suggest that which is recited in these new claims. As above, for at least the reason that there is no disclosure, teaching or suggestion to be found that a material applicator is activated as a function of a signal representative of a surface to be coated, these claims are allowable.

Applicant believes all claims are in allowable condition. A notice of allowance for this application is earnestly solicited. If the Examiner has any questions regarding this amendment, the Examiner is invited to call Applicant's attorney at the number listed below. The Examiner is hereby authorized to charge any fees or credit any balances under 37 CFR §§1.16 and 1.17 to Deposit Account No. 02-3038.

Respectfully submitted,



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